

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
15 February 2007 (15.02.2007)

PCT

(10) International Publication Number  
**WO 2007/018396 A2**

(51) International Patent Classification:  
**B65D 3/10** (2006.01)

(21) International Application Number:  
PCT/KR2006/003109

(22) International Filing Date: 8 August 2006 (08.08.2006)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
20-2005-0023182 10 August 2005 (10.08.2005) KR

(71) Applicant and  
(72) Inventor: KIM, Ku Saeng [KR/KR]; B-201 Wolseong  
Apt, Yeonsan5-dong 1359-7 Yeonje-gu, Busan 611-828  
(KR).

(74) Agent: HAN, Sang Hyuk; 3rd Floor Yaksan B/D, 891-39  
Daechi4-dong Gangnam-gu, Seoul 135-284 (KR).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

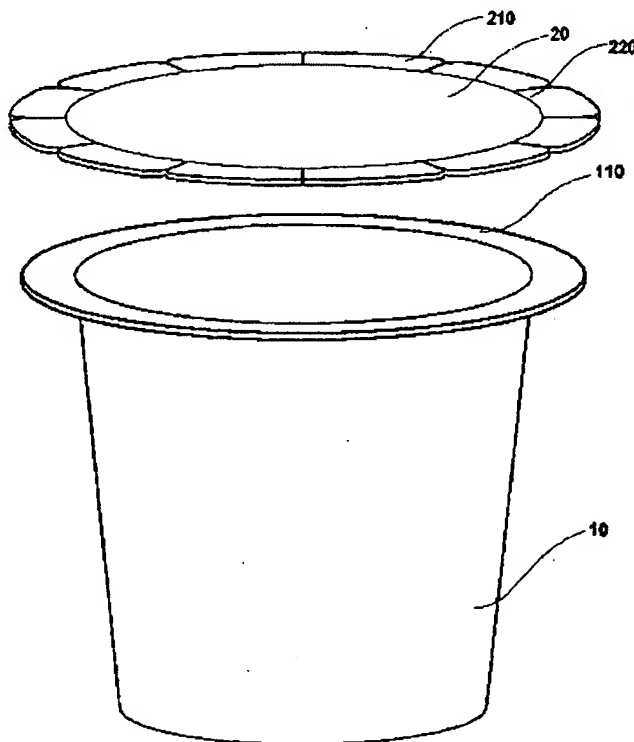
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP,  
KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU,  
LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG,  
NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD,  
SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,  
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:  
— without international search report and to be republished  
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: A PACKING CONTAINER EQUIPPED WITH MULTIPLE PULLS



(57) Abstract: A cylindrical or cup-shaped ice-cream packing container is disclosed. An opening is formed to have a flat surface on the upper surface to which the cover is adhered, the flat upper surface forming a circular ring having an inner diameter and an outer diameter. A cover is formed in a disc, and has a plurality of wedge-shape cut portions formed along a circumference at regular intervals and having the same depth toward a center of the disc, an inner tear-off line concentrically formed on an inner surface of the cover that is engaged to the opening of the main body and having a diameter smaller than the inner diameter of the opening and a depth corresponding to a half of a thickness of the cover, and an outer tear-off line concentrically formed on an outer surface of the cover opposite to the surface which is engaged to the opening of the body, the outer tear-off line consisting of a circular tear-off line having a diameter larger than the inner diameter of the opening and a depth corresponding to a half of a thickness of the cover and a plurality of tear-off lines diametrically extending from the tear-off line to connect an inner end of the cut portion.

WO 2007/018396 A2

## **Title: A PACKING CONTAINER EQUIPPED WITH MULTIPLE PULLS**

### **Technical Field**

5           The present invention relates to a packing container, and more particularly, to a cylindrical or cup-shaped packing container made of a paper which is used to carry and sell food, such as ice cream, contained in the airtight container.

### **Background Art**

          Various types of edible ice packing containers have been disclosed. For an ice-cream product that is provided to enable a user to eat the ice cream with a spoon, a cup-shaped ice-cream container made of a paper is conventionally used.

15           Such a conventional ice-cream container includes, as shown in FIG. 7a, a main body 10 formed in a cup shape, and a cylindrical cover 20 for covering an opening 110 of the body 10 and having a diameter almost equal to that of the opening 110. The packing container is made of a specially coated paper to prevent contents from permeating the paper when the ice cream is partially  
20 molten. In order to prevent the contents from spilling over the container when the product is kept or carried, a waterproof seal sheet 30, such as gold foil or silver foil, is provided on an outer circumstance of the opening 110 so that it is

interposed between the main body 10 and the cover 20, as shown in FIG. 7b.

Specifically, in case the opening 110 is directly covered by the cylindrical cover 20 having a diameter almost equal to that of the opening, with the seal sheet being not interposed therebetween, after the ice cream is contained in the main body 10, the molten ice cream contained in the main body 10 spills along an inner periphery of the cover which is not sealed. Therefore, the seal sheet 30 made of a waterproof material should be provided to seal the opening.

The conventional ice-cream packing container configured as described above has some advantages in that the contents are easily carried by the container and the packing container is exclusively used to contain the ice cream, without moving the contents into other container after a consumer purchases the product.

However, the conventional ice-cream container has the following drawbacks. When the ice cream is packaged, a process of putting the contents into the main body 10 and sealing the main body should include a step of attaching a seal sheet 30 to the opening and a step of engaging the cover 20 with the main body 10. Also, a process of separately manufacturing the cylindrical cover 20 should be added. In this instance, the process requires cutting, bending, and adhering operation of each element configuring a side and upper surface of the cover. In addition, a material cost of the seal sheet 30 is increased.

Further, since the ice-cream product that is provided to enable a user to eat the ice cream with a spoon is generally sold in an ice-cream packing container type, most of consumers have a bellyful of such a packing container. Also, a seller requires the ice-cream packing container to have a unique  
5 individuality.

### **Disclosure**

#### **Technical Problem**

The present invention has been made in view of the foregoing  
10 problems, and it is an object of the present invention to provide a packing container capable of simplifying a process of manufacturing and packing the packing container, reducing a material required for the packing container, and easily opening a cover.

#### **Technical Solution**

In order to achieve the above objects, in one aspect of the present invention, there is provided a cylindrical or cup-shaped packing container including a main body consisting of a bottom, a side vertically extending from the bottom, and an opening formed opposite to the bottom, and a cover  
20 covering the opening, in which the opening is formed to have a flat surface on the upper surface to which the cover is adhered, the flat upper surface forming a circular ring having an inner diameter and an outer diameter; the cover is

formed in a disc, and has a plurality of wedge-shape cut portions formed along a circumference at regular intervals and having the same depth toward a center of the disc, an inner tear-off line concentrically formed on an inner surface of the cover that is engaged to the opening of the main body and having a diameter smaller than the inner diameter of the opening and a depth corresponding to a half of a thickness of the cover, and an outer tear-off line concentrically formed on an outer surface of the cover opposite to the surface which is engaged to the opening of the body, the outer tear-off line consisting of a circular tear-off line having a diameter larger than the inner diameter of the opening and a depth corresponding to a half of a thickness of the cover and a plurality of tear-off lines diametrically extending from the tear-off line to connect an inner end of the cut portion; and the upper surface of the opening is adhered on the inner surface of the cover in such a way that the inner tear-off line is positioned from within the inner diameter of the opening.

Preferably, the cover is adhered to the opening by high-frequency compression.

#### **Advantageous Effects**

The packing container according to the present invention has the following advantages.

First, a conventional ice-cream packing container requires a separate sealing sheet to seal the contents and several processes of adhering the

sealing sheet on an opening of a main body, manufacturing a cover for protecting the sealing sheet, and packing the packing container are required. However, according to the ice-cream packing container of the present invention, a cover is manufactured only by cutting a disc-type material along an outline of  
5 a cover and forming tear-off lines on both surfaces of the cover. Also, the sealing operation of the packing container is completed by directly adhering the cover on a main body, without using a separate sealing sheet. Therefore, a process of manufacturing and packing the packing container is simplified, and a manufacturing cost thereof is reduced.

10       Second, the cover is provided with a plurality of pull taps along a circumference of the cover. Also, the container is easily and clearly opened only by pulling up any one of the pull taps, thereby enabling a consumer to easily open the container.

15       Third, the packing container has a unique appearance, and the outer surface of the cover may be formed in a flower shape, thereby providing the consumer with the aesthetic appreciation.

20       Lastly, since the cover and the main body are adhered to each other not by thermo-compression using heat but by high-frequency compression, a possibility of deterioration can be remarkably reduced and thus a defective can be reduced.

#### **Brief Description of the Drawings**

The foregoing and other objects, features and advantages of the present invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings in which:

5           FIG. 1 is an exploded perspective view illustrating an ice-cream packing container according to a preferred embodiment of the present invention;

          Fig. 2 is a perspective view of the ice-cream packing container shown in FIG. 1;

          Fig. 3 is a plan view of the ice-cream packing container shown in FIG.  
10   1;

          FIGS. 4 to 7 are views illustrating the detained construction of the cover shown in FIG. 1;

          FIG. 8 is a perspective view illustrating the engaged state of the cover and main body shown in FIG. 1;

15           FIG. 9 is a view illustrating the using state of an ice-cream packing container according to a preferred embodiment of the present invention; and

          FIGS. 10 and 11 are a perspective view and an exploded perspective view illustrating a conventional ice-cream packing container.

20    **Best Mode**

          Reference will now be made in detail to the preferred embodiment of the present invention.

FIG. 1 is an exploded perspective view illustrating an ice-cream packing container according to a preferred embodiment of the present invention, in which a cover 20 is detached from a main body 10.

Referring to FIG. 1, the cover 20 of the packing container according to the present invention includes is shaped in a disc, unlike the cylindrical cover for the conventional ice-cream packing container which is described with reference to FIGs. 10 and 11, and includes a plurality of pull taps 210 formed along an outer periphery at regular intervals and formed in a semicircular shape.

A lower surface of the cover 20 of the present invention is adhered on an upper surface of an opening 110. The opening 110 is formed to have a flat surface on the upper surface. The sealed packing container applied with the cover is shown in FIG. 2.

FIGs. 1 and 2 show a tear-off line 220 formed around an outer surface of the cover 20 to have a depth corresponding to a half of thickness of the disc cover 20. The cover 20 is torn off along the tear-off line when the cover 20 is opened, of which the detailed construction and function will be described with reference to the drawings.

Fig. 3 is a plan view of the ice-cream packing container according to a preferred embodiment of the present invention, in which the tear-off line 220 and the pull taps 210 are shown in detail.

The ice-cream packing container of the present invention is characterized by the construction of the cover 20, as will be known from the



difference between the cover of the present invention and the conventional cover. The cover 20 and the tear-off lines formed on both sides of the cover 20 will now be described with reference to FIGs. 4 to 7, on the basis of the shape of the tear-off line and the opening mechanism of the packing container

5 according to the present invention.

FIG. 4 is a view illustrating an outer cut line formed on the upper surface of the cover 20 according a preferred embodiment of the present invention, except for the tear-off line.

As shown in FIG. 4, the cover 20 of the packing container according to

10 the present invention is provided on the circumference of the disc with a plurality of wedge-shape cut portions 211 at regular intervals. The plurality of pull taps 210 having a predetermined width are formed between the adjacent cut portions 211. In this instance, there is no limitation on the number of the pull taps, but it is preferable that at least three pull taps are formed. FIG. 4

15 shows the cover 20 in which the cut portions 210 are formed at intervals of 30 degrees, thereby forming 12 pull taps.

FIG. 5 shows an outer tear-off line 220 formed on an outer surface of the cover 20 opposite to the surface which is engaged to the opening of the body 10, according to the present invention. The outer periphery of the cover

20 20 including the pull taps 210 formed on the portion outside the tear-off line 220 are shown by a dotted line.

The outer tear-off line 220 is formed to have a depth corresponding to a

half of a thickness of the cover 20, and has a circular tear-off line 221 and a plurality of tear-off lines 222 diametrically extending from the tear-off line 221 to connect the inner end of the cut portion 221.

As described above, the tear-off lines 222 are connected to the inner  
5 ends of the wedge-shape cut portions 211 at both ends of the pull taps 210. If any one of the pull taps 210 is pulled up in the state the cover 20 is adhered on the body 10, a portion of the cover 20 starts to tear off along the two tear-off lines 222 extended from the cut portion 211 at both sides of the pull tap 210. When the tear-off line 222 reaches a point where the tear-off line 222 meets the  
10 circular tear-off line 221, the tear-off line 222 is torn off in an outward direction of the circular tear-off line 221 which is at an obtuse angle relative to an applied angle of the pulling force (i.e., direction of left and right pull taps 210).

In this instance, the circular tear-off line 221 of the outer tear-off line 220 has a diameter larger than that of the inner circular tear-off line 230 formed  
15 on the inner surface of the cover 20, so that the inner tear-off line 230 is enclosed by other tear-off lines. Preferably, the circular tear-off line 221 has a diameter larger than an inner diameter of the opening 110 which is larger than the diameter of the inner tear-off line 230.

FIG. 6 shows the inner tear-off line 220 formed on the inner surface of  
20 the cover 20 according to the present invention that is engaged to the opening of the main body 10. As shown in FIG. 5, the outer periphery of the cover 20 including the pull taps 210 formed on the portion outside the tear-off line 220

are shown by a dotted line.

Referring to FIG. 7, the inner tear-off line 230 is formed to have a depth corresponding to a half of a thickness of the cover 20, like the outer tear-off line 220 described above. The inner tear-off line 230 is coaxially formed in the circular tear-off line 221, and has a diameter smaller than that of the circular tear-off line 221 of the outer tear-off line 220. In addition, the inner tear-off line 230 has a diameter smaller than that of the opening 110 so that it can be positioned from within the opening 110 when the inner surface of the cover 20 is adhered on the opening 110 of the main body 10.

FIG. 8 shows the pull taps 210 formed on the outer periphery of the cover 20, the outer tear-off line 220 formed on the outer surface, and the inner tear-off line 230 formed on the inner surface.

More specifically, FIG. 8 shows a plan view of the cover 20 to illustrate the position of each part described above, in which the outer tear-off line 220 formed on the outer surface is shown by a solid line, and the inner tear-off line 230 formed on the inner surface is shown by a dotted line.

With the configuration of the pull tips 210, the outer tear-off line 220, and the inner tear-off line 230, if any one of the pull taps 210 is pulled up in the state the cover 20 is adhered on the body 10, a portion of the cover 20 starts to tear off along the outer tear-off line 220. When the portion torn off along both directions of the circular tear-off line 221 of the outer tear-off line 220 reaches the circumference of the inner tear-off line 230, the inner surface is torn off

along the both directions of the inner tear-off line 230 at this point. Consequently, if the cover 20 is fully pulled up, a circular hole is clearly formed on the opening of the main body 10 in the shape of inner tear-off line 230, so that a consumer can eat the contents with a spoon.

5           The outer surface of the cover 20 may be displayed as a sunflower by combining the shape of the pull taps 210 and the shape of the outer tear-off lines 220 formed on the outer surface, thereby providing the consumer with the aesthetic appreciation.

FIG. 8 shows the engaged state of the cover 20 and main body 10, in  
10       which the opening of the main body 10 and the inner tear-off line 230 which are not seen by the outer surface of the cover 20 are also shown by dotted lines.

As shown in FIG. 8, the cover 20 is adhered on the main body 10 so that the inner tear-off line 230 is positioned from within the opening 110. In this embodiment, the outer tear-off line 220 is positioned between the inner  
15       diameter and the outer diameter of the opening 110. Therefore, even though any one pull tap 210 is pulled up from the cover 20, the opening can be clearly opened by the above mechanism.

Meanwhile, the adhesion of the cover 20 and the main body may be carried out by coating both surfaces to be adhered with a polymer resin and  
20       applying pressure to the coated surfaces under a predetermined condition to adhere both surfaces. The adhesion is generally conducted by thermo-compression which applies the heat and pressure to the adhered portion.

In case of employing the thermo-compression, the adhered portion may be discolored due to the high temperature to cause a bad appearance or deteriorate the material itself which is one cause of a product defective.

In order to solve the above problem, a method of applying a high frequency to the coated surfaces can be utilized. The high-frequency compression has an advantage in that a high-frequency transmitting means having the same shape as the adhered portion can be permanently used to manufacture the packing container of the same shape, without deteriorating the adhered portion of the packing container.

FIG. 9 is a view illustrating the opened state of the ice-cream packing container configured as described above, in which the opening is clearly opened along the outer tear-off line 220 and the inner tear-off line 230 by pulling up the pull tap 210.

#### **Industrial Applicability**

As can be seen from the foregoing, the ice-cream packing container according to the present invention has the following advantages.

First, a conventional ice-cream packing container requires a separate sealing sheet to seal the contents and several processes of adhering the sealing sheet on an opening of a main body, manufacturing a cover for protecting the sealing sheet, and packing the packing container are required. However, according to the ice-cream packing container of the present invention,

a cover is manufactured only by cutting a disc-type material along an outline of a cover and forming tear-off lines on both surfaces of the cover. Also, the sealing operation of the packing container is completed by directly adhering the cover on a main body, without using a separate sealing sheet. Therefore, a  
5 process of manufacturing and packing the packing container is simplified, and a manufacturing cost thereof is reduced.

Second, the cover is provided with a plurality of pull taps along a circumference of the cover. Also, the container is easily and clearly opened only by pulling up any one of the pull taps, thereby enabling a consumer to  
10 easily open the container.

Third, the packing container has a unique appearance, and the outer surface of the cover may be formed in a flower shape, thereby providing the consumer with the aesthetic appreciation.

Lastly, since the cover and the main body are adhered to each other not  
15 by thermo-compression using heat but by high-frequency compression, a possibility of deterioration can be remarkably reduced and thus a defective can be reduced.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to  
20 be understood that the invention is not limited to the disclosed embodiment and the drawings. On the contrary, it is intended to cover various modifications and variations within the spirit and scope of the appended claims.

### Claims

1. A cylindrical or cup-shaped packing container including a main body consisting of a bottom, a side vertically extending from the bottom, and an opening formed opposite to the bottom, and a cover covering the opening, in  
5 which

the opening is formed to have a flat surface on the upper surface to which the cover is adhered, the flat upper surface forming a circular ring having an inner diameter and an outer diameter;

the cover is formed in a disc, and has a plurality of wedge-shape cut  
10 portions formed along a circumference at regular intervals and having the same depth toward a center of the disc, an inner tear-off line concentrically formed on an inner surface of the cover that is engaged to the opening of the main body and having a diameter smaller than the inner diameter of the opening and a depth corresponding to a half of a thickness of the cover, and an outer tear-off  
15 line concentrically formed on an outer surface of the cover opposite to the surface which is engaged to the opening of the body, the outer tear-off line consisting of a circular tear-off line having a diameter larger than the inner diameter of the opening and a depth corresponding to a half of a thickness of the cover and a plurality of tear-off lines diametrically extending from the tear-off  
20 line to connect an inner end of the cut portion; and

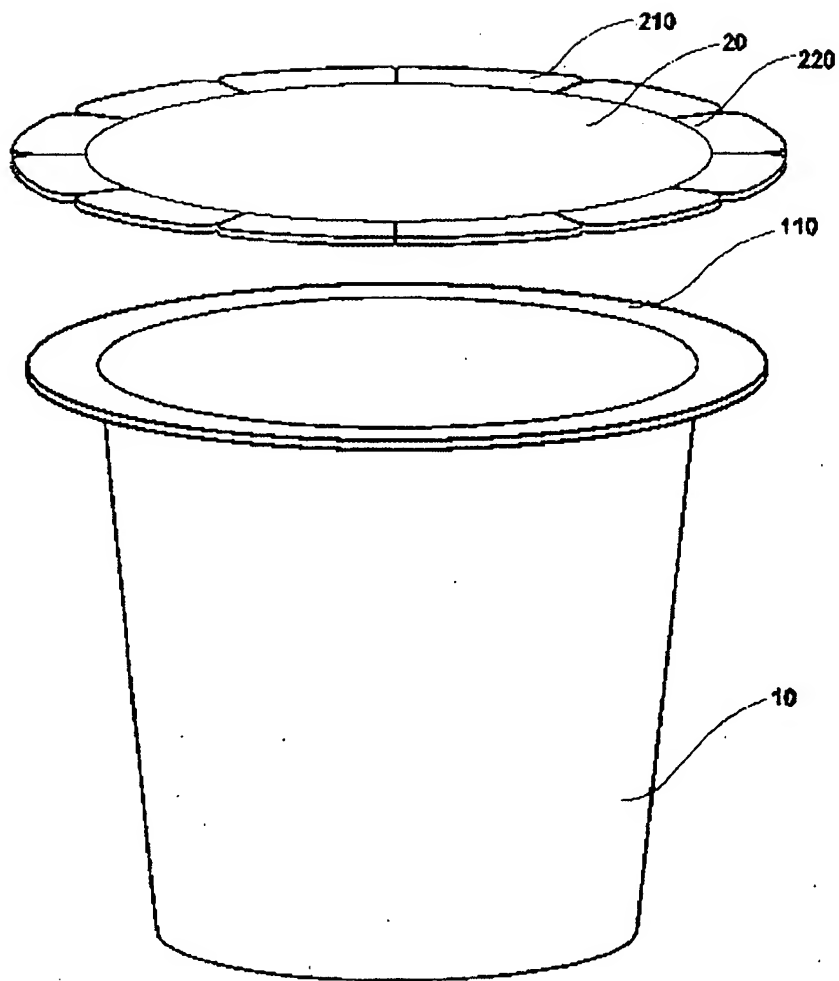
the upper surface of the opening is adhered on the inner surface of the cover in such a way that the inner tear-off line is positioned from within the inner

diameter of the opening.

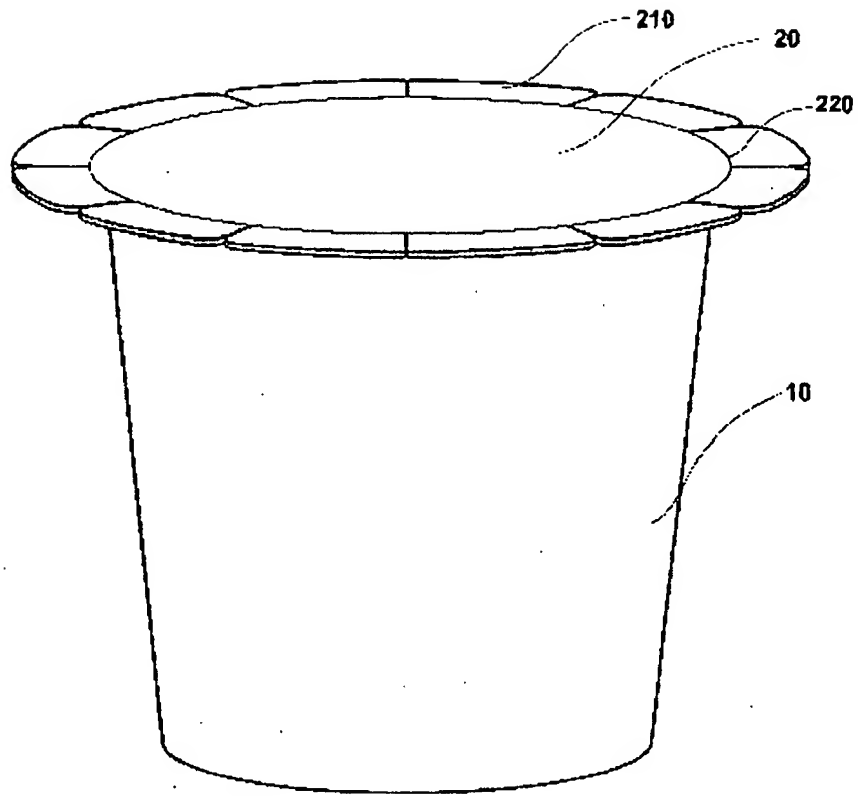
2. The packing container as claimed in claim 1, wherein the cover is adhered to the opening by high-frequency compression.



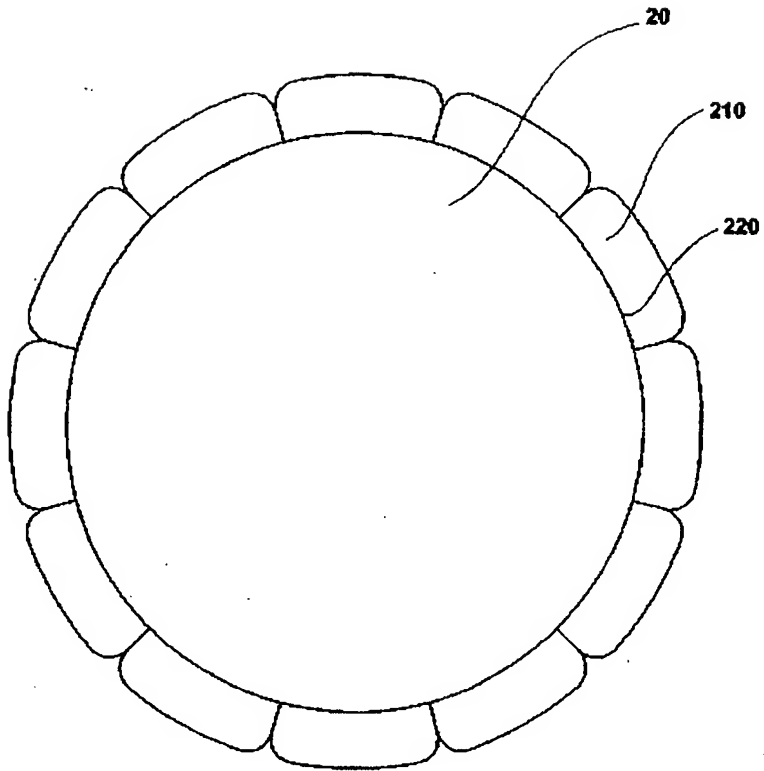
[Fig. 1]



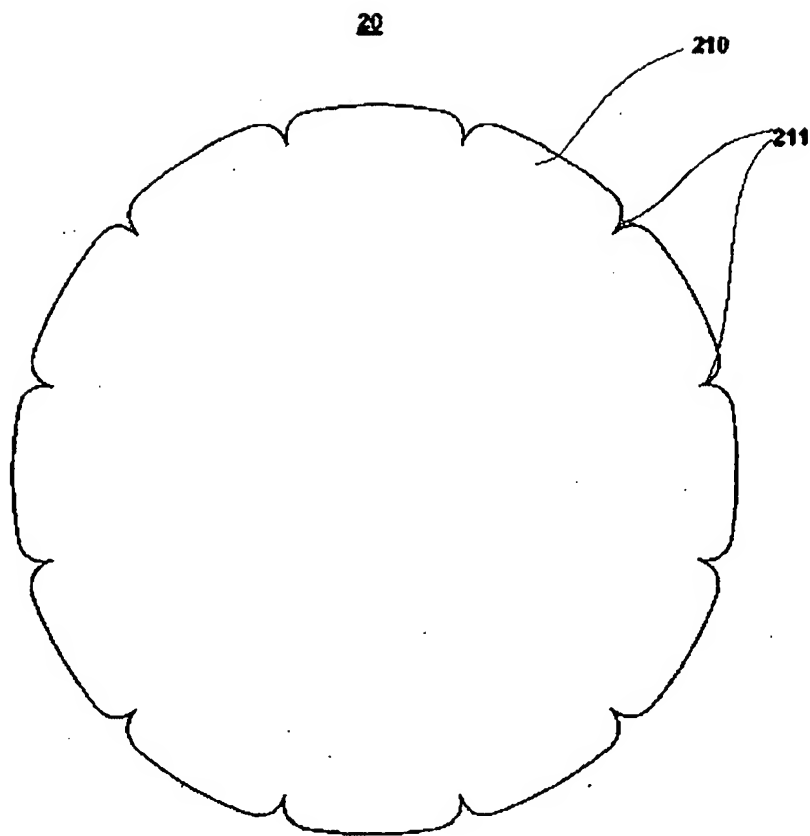
[Fig. 2]



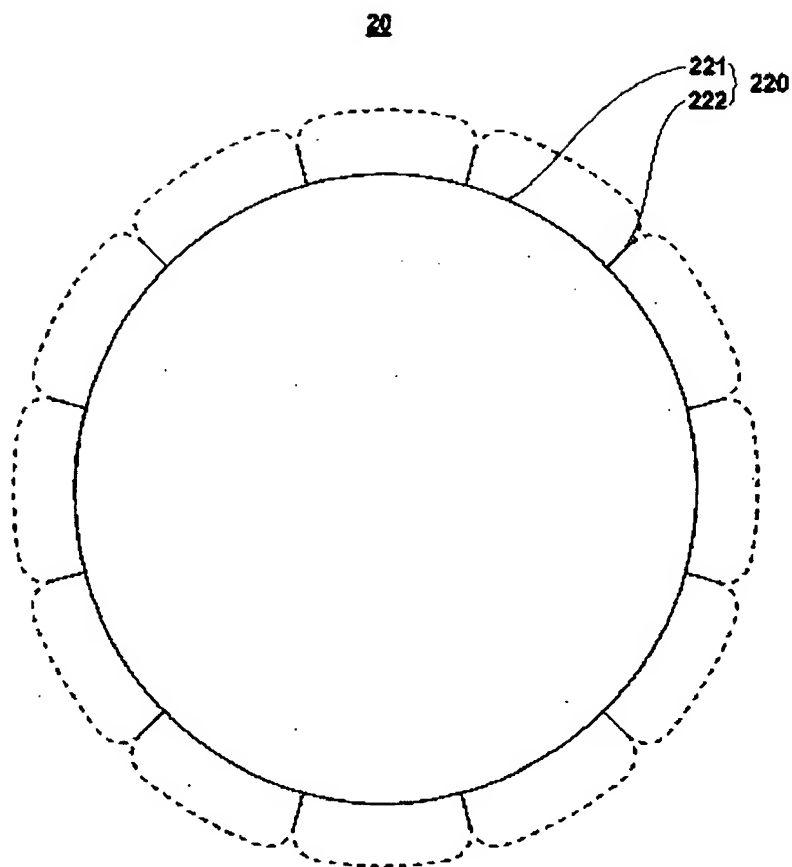
[Fig. 3]



[Fig. 4]

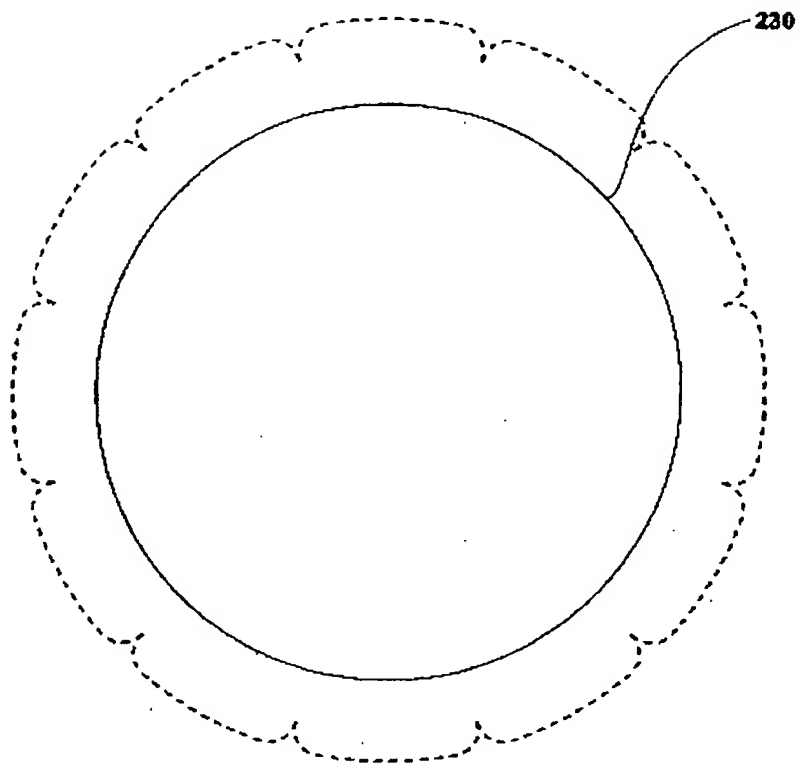


[Fig. 5]

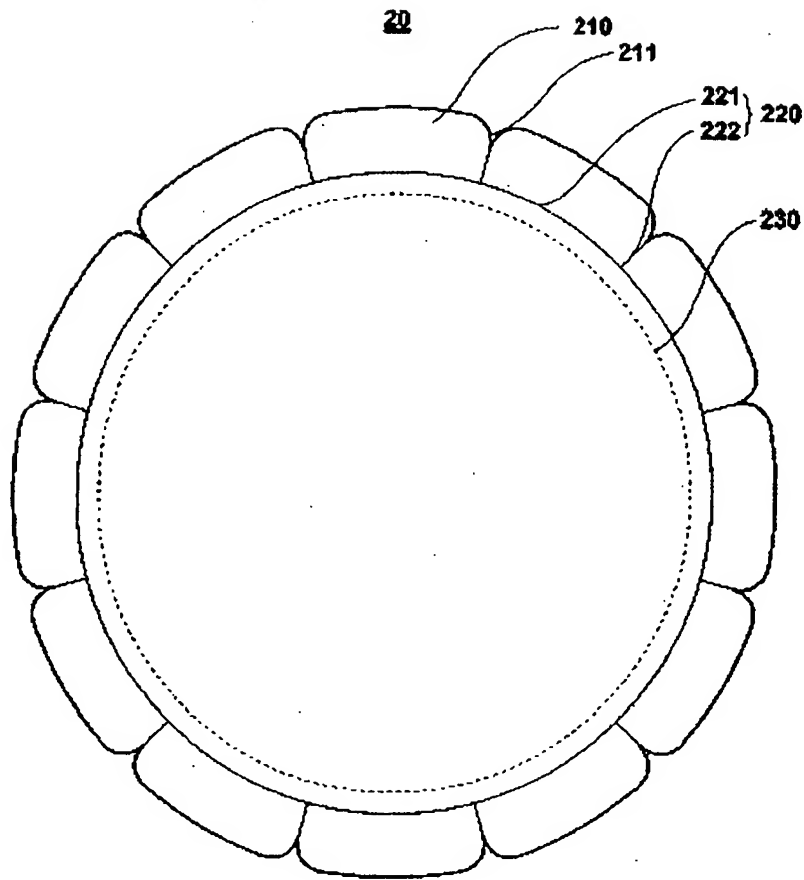


[Fig. 6]

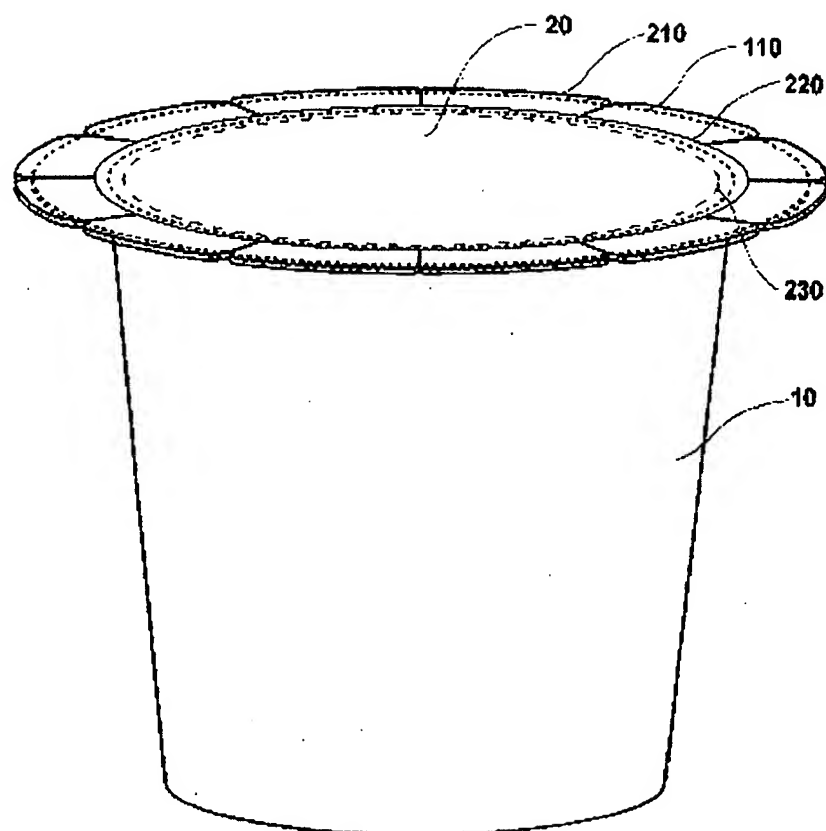
**20**



[Fig. 7]

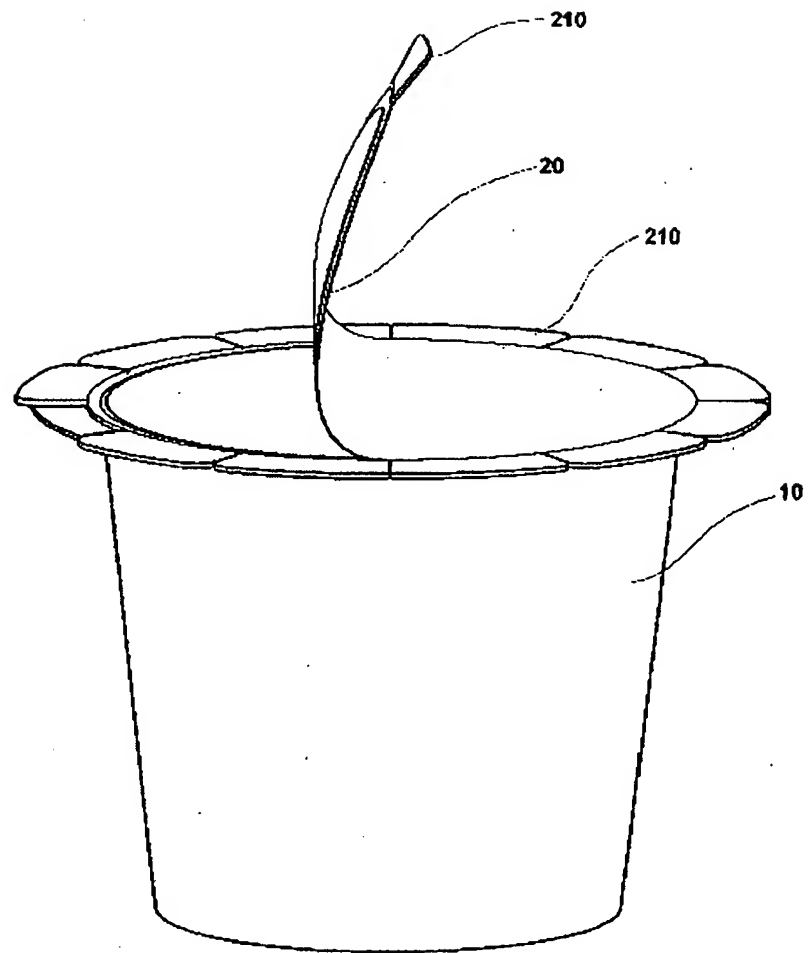


[Fig. 8]

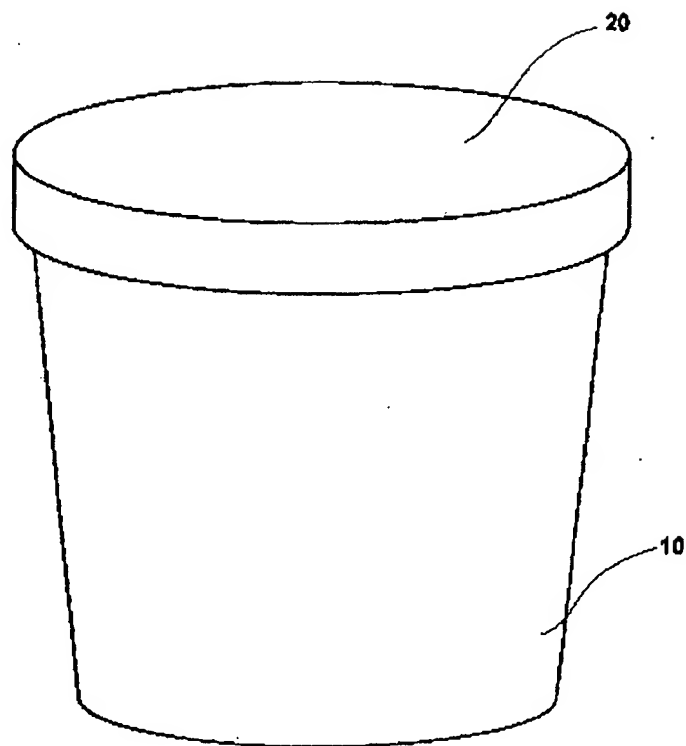




[Fig. 9]



[Fig. 10]



[Fig. 11]

